BANK FOR INTERNATIONAL SETTLEMENTS

Central bank finances: Do they matter? How?

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Overview

- Irrelevance propositions
- Challenges thereto
- The Federal Reserve: lessons to draw and not to draw
- QE at the Zero Lower Bound: costly or profitable in general?
- Eye-watering exposures can be part of the core business
- The money-making machine is running out of steam
- The theoretician's fix: good in theory, rare in practice
- Behaving as-if finances matter: central bankers
- Behaving because finances may matter: politicians
- Misunderstanding how central bank finances matter: markets

Irrelevance propositions

1. Bankruptcy protection; no capital regulation; no liquidity constraint; can create the means of payment ➔ can always pay the bills, even when current assets are less than liabilities

2. In general equilibrium, for classical central bank:

- Central bank within overall government budget constraint
- Central bank losses must eventually be made up by transfers from the exchequer
- Risk transferred from private sector to central bank is mirrored by increased risk of future taxes
- Private expenditure plans therefore unaffected by central bank's financial position

(Wallace 1981)

Challenges to irrelevance propositions

- Buiter (2006): Worked out analytical conditions for an inflation target to be financeable by the central bank alone, and by consolidated government. Future seigniorage is crucial.
- Hall and Reis (2015): Could the financial risks associated with "new style" central banking cause insolvency without fiscal support? Insolvency is possible, in various forms. As with Buiter, future seigniorage is a key issue. A symmetric distribution rule is a surefire fix.
- Del Negro and Sims (2015): When is fiscal support needed? When balance sheet holes caused by new style risks exceed future seigniorage. Real interest rate shocks a possible source (nominal shocks benign). Perception of no fiscal support could cause insolvency through inflation fear. Fiscal support (symmetric distribution) a surefire fix.

Challenges to irrelevance propositions (continued)

- Del Negro and Sims (continued): Acquisition of interest rate risk in QE – highlights relevance of potential of losses from a real interest rate shock. But numerical simulations show Fed well away from danger point. Even with IOR. At least while demand for money holds up.
- Benigno and Nisticò (2015): Re-examine Wallace neutrality proposition, allowing for the possibility that distribution rule is not symmetric. As with H&R, symmetric distribution rule is a surefire fix, and crucial if future seigniorage is small relative to size of current losses.
  (GE perspective on QE: inflationary effect would be due to perceived frictions in fiscal support mechanism.)

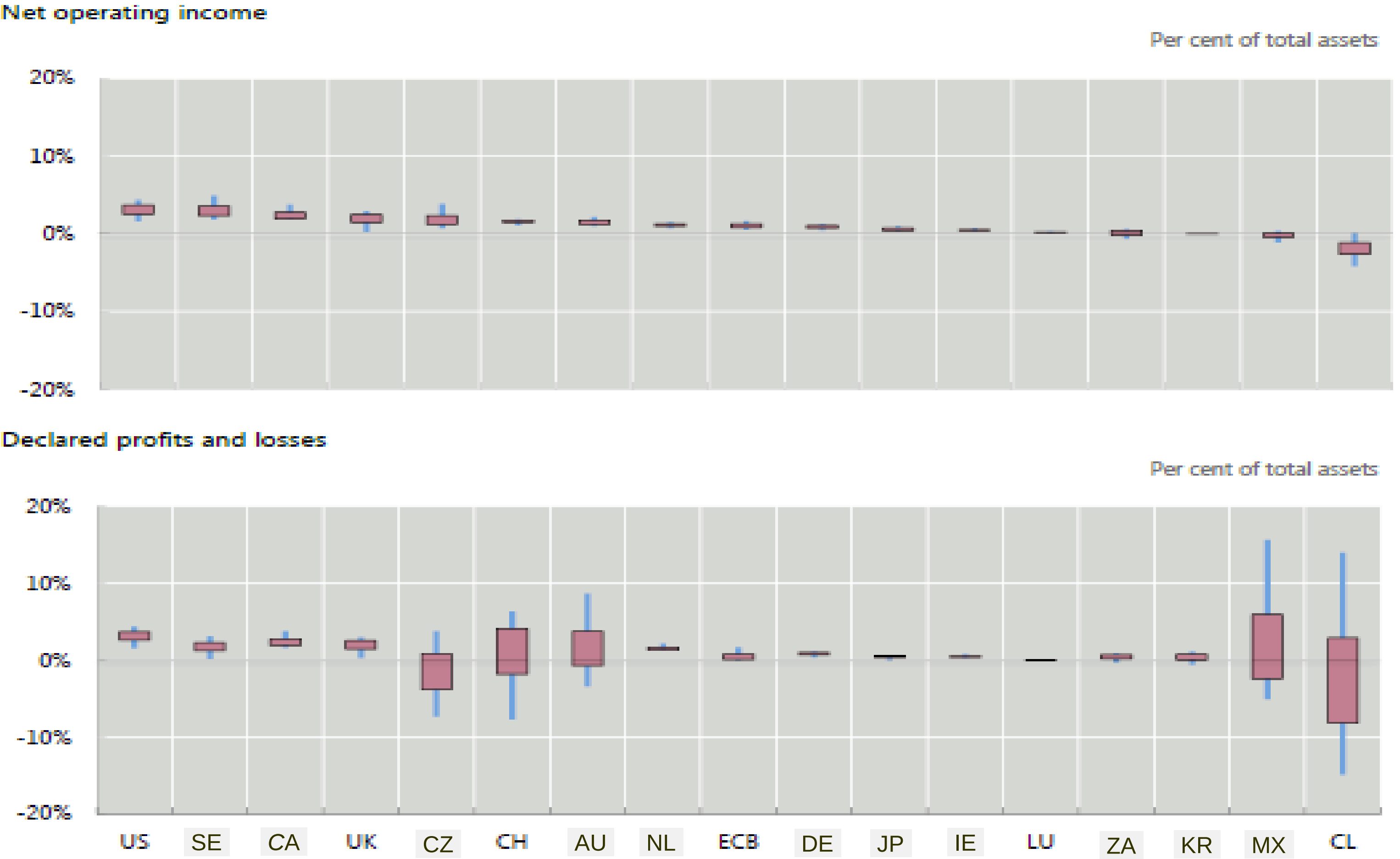
Summary of challenges

- Economic insolvency is possible, even if conventional bankruptcy is not
- Institutional separation of the central bank makes the distribution rule crucial – opening the door for the non-neutrality of central bank finances in general equilibrium
- As well as the distribution rule, the big issues are the size of future seigniorage and hits to current net worth
- Even with full fiscal support, an inflation target need not be consistent with the consolidated intertemporal constraint (Buiter)
- But numerical simulations of recent balance sheet shocks give comfort

Taking comfort from Fed experience …

The relationship between the variability of regular income and the variability of declared profits and losses

Figure 8



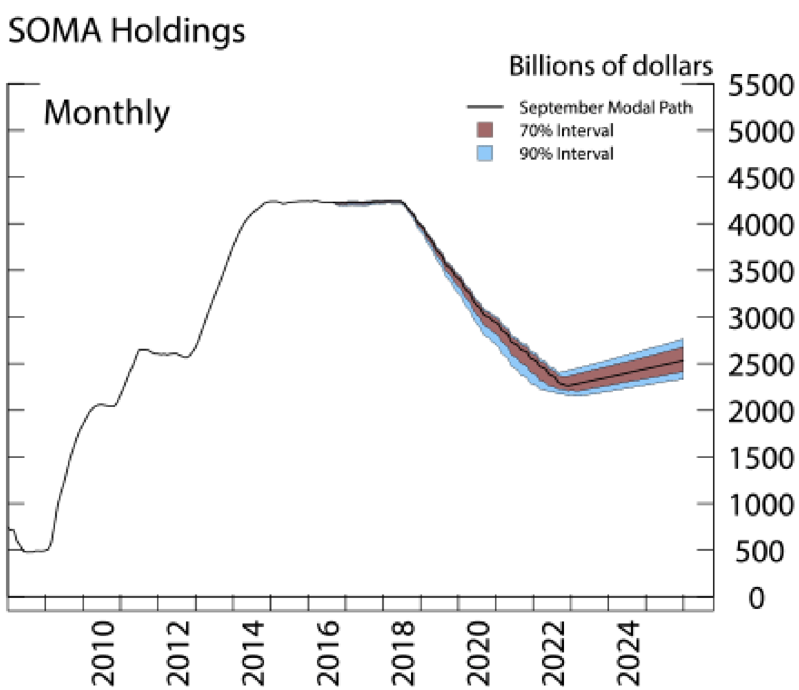
….. Fed is unusually well endowed

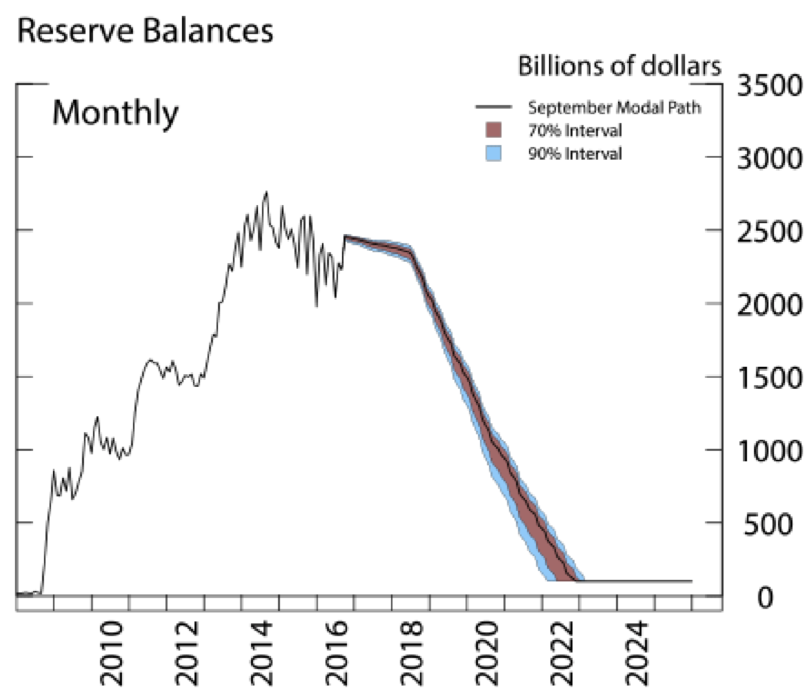
Accounting vs. Comprehensive Net Worth

	Eurosystem (€ billions)	Bank of England (£ billions)	Federal Reserve ($ billions)
Shareholder equity (end 2010)	411	4.8	134
Total assets (end 2010)	2,002	247	2,428
Comprehensive net worth at price stability	5,068	237	4,172

Sources: Buiter and Rahbari (2012), central bank financial statements

Benign QE experience?





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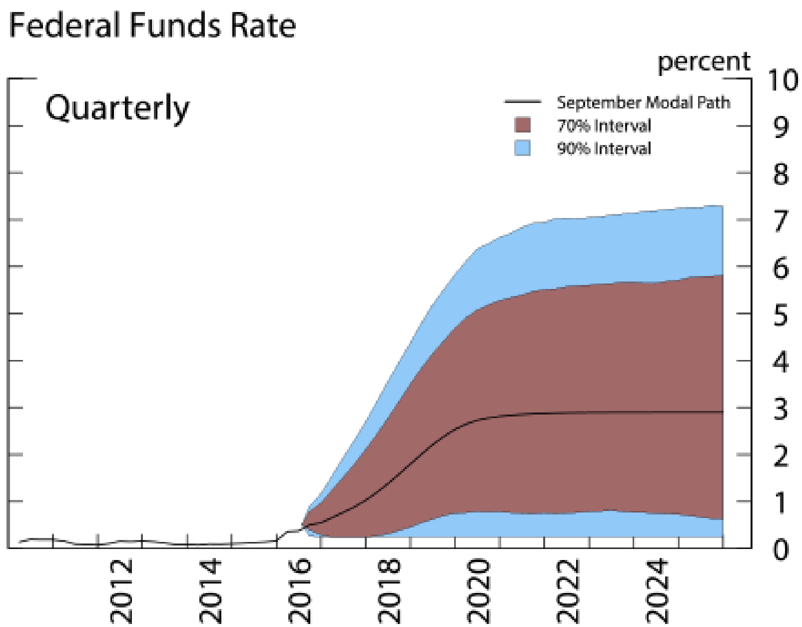

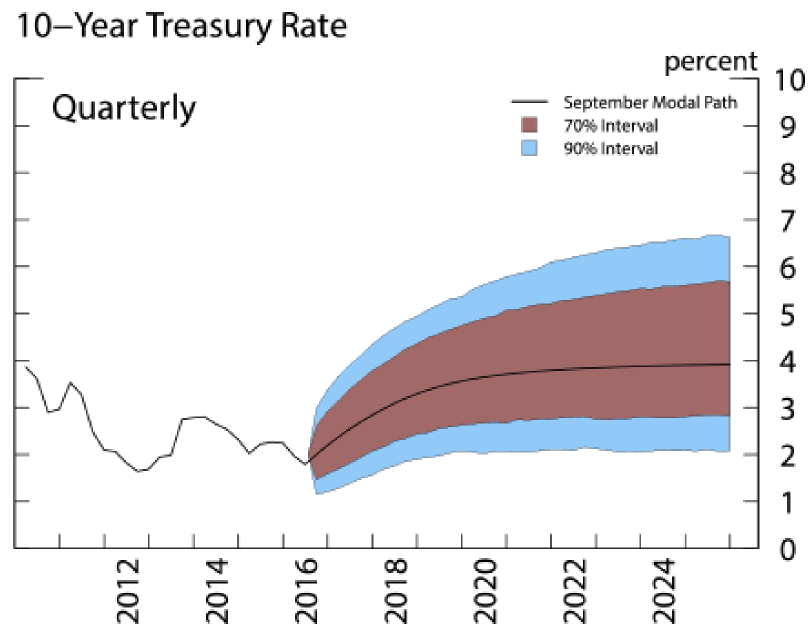

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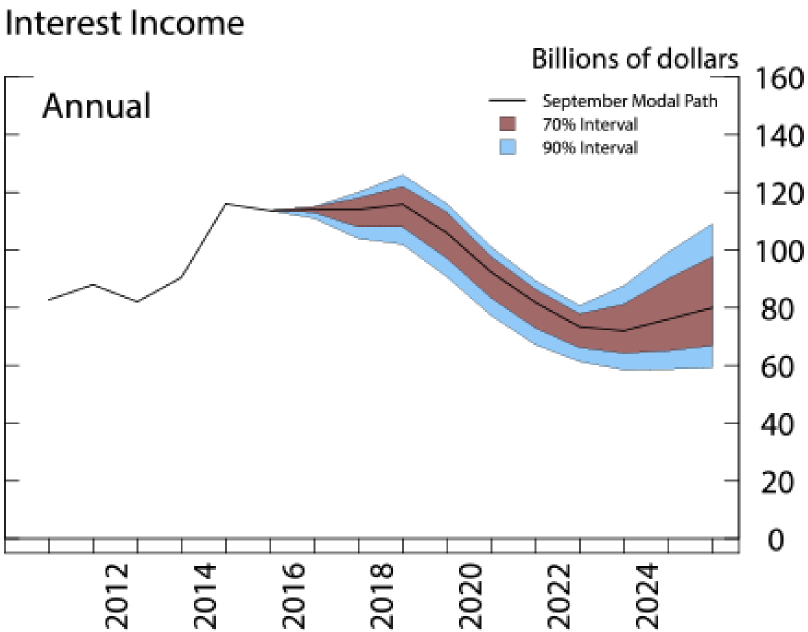
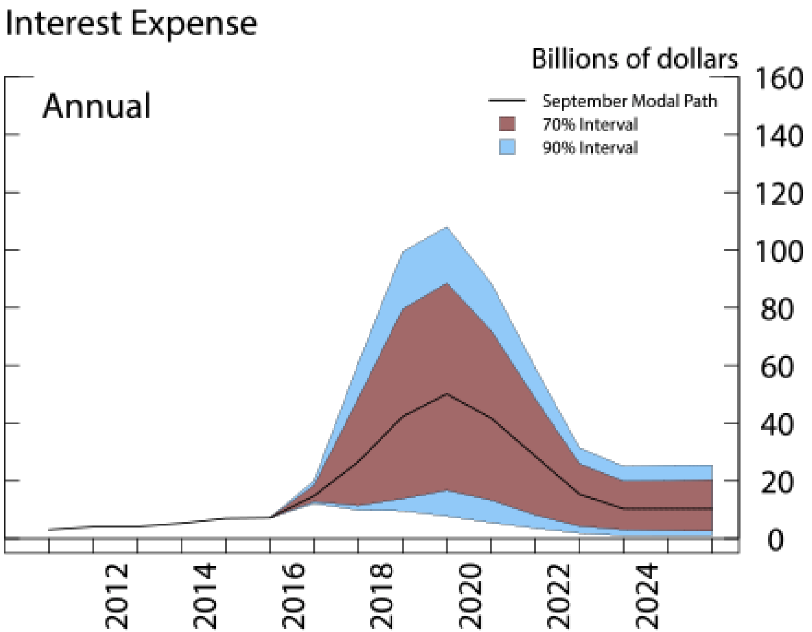
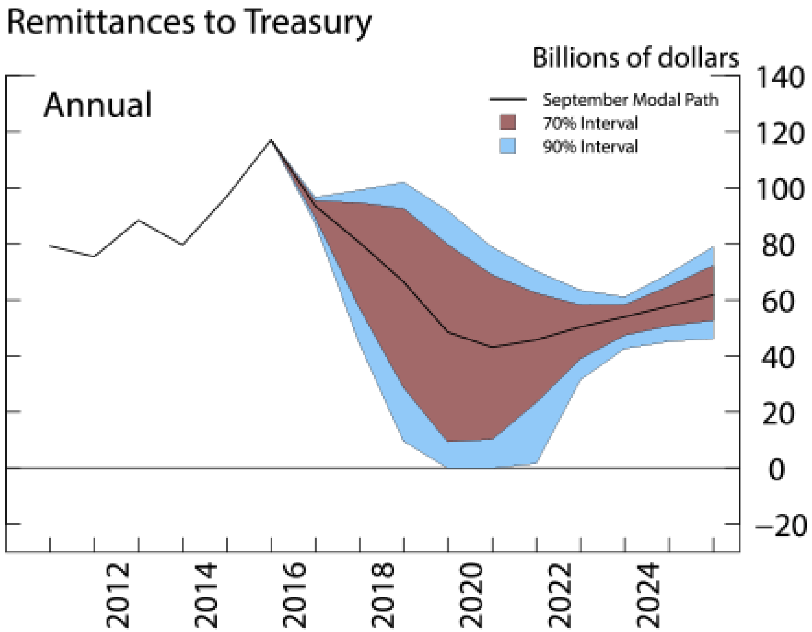
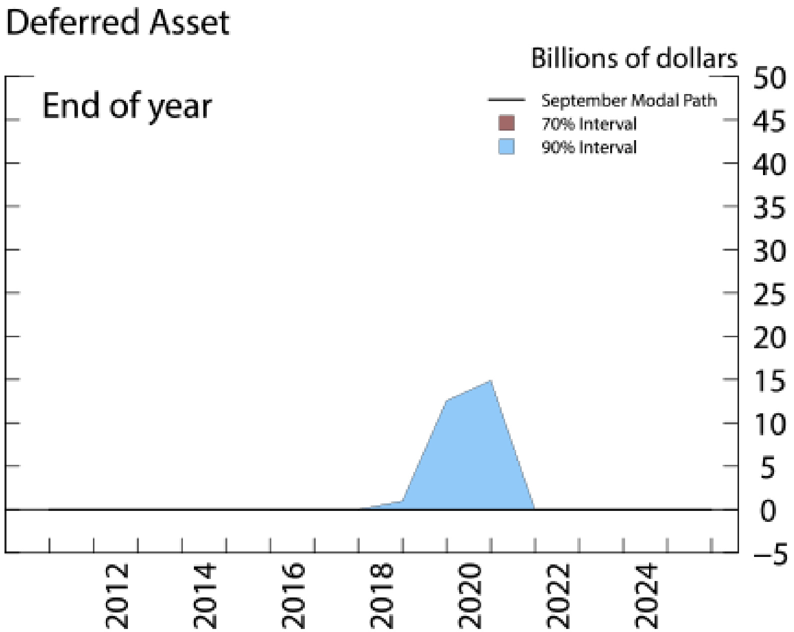




Benign QE experience?





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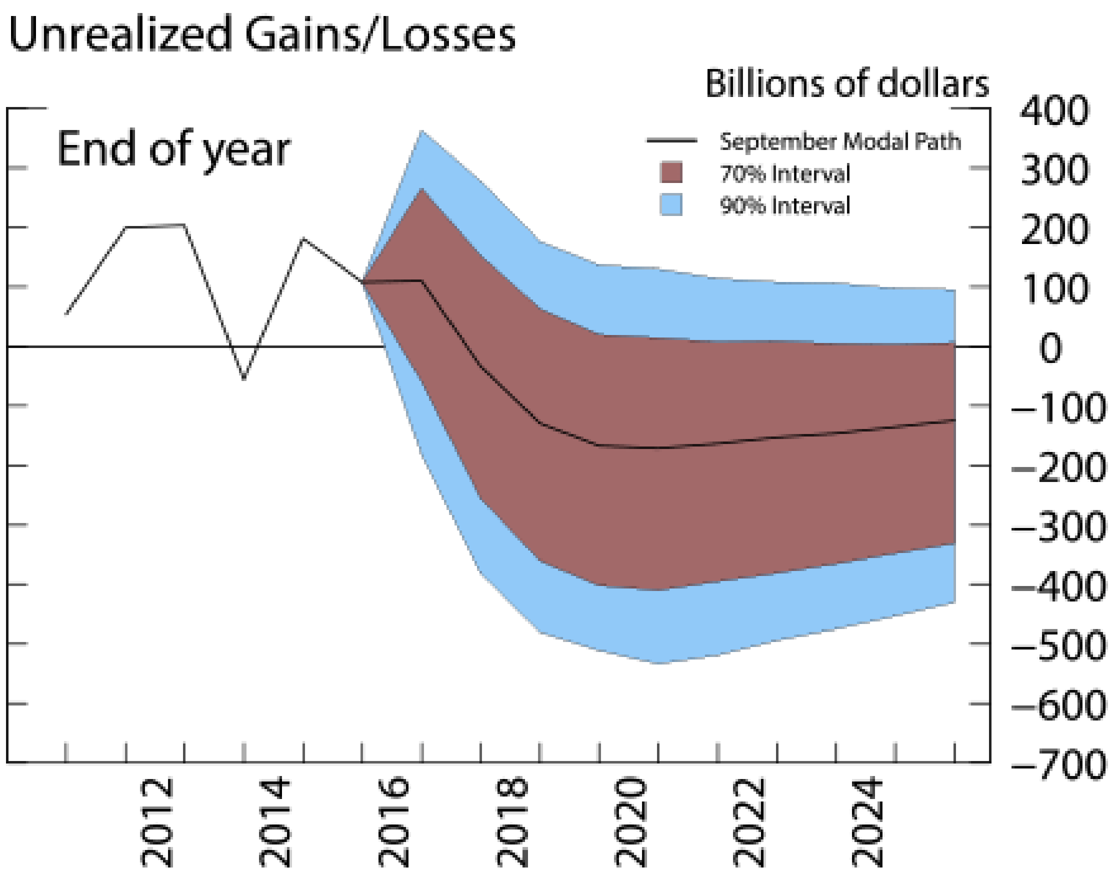


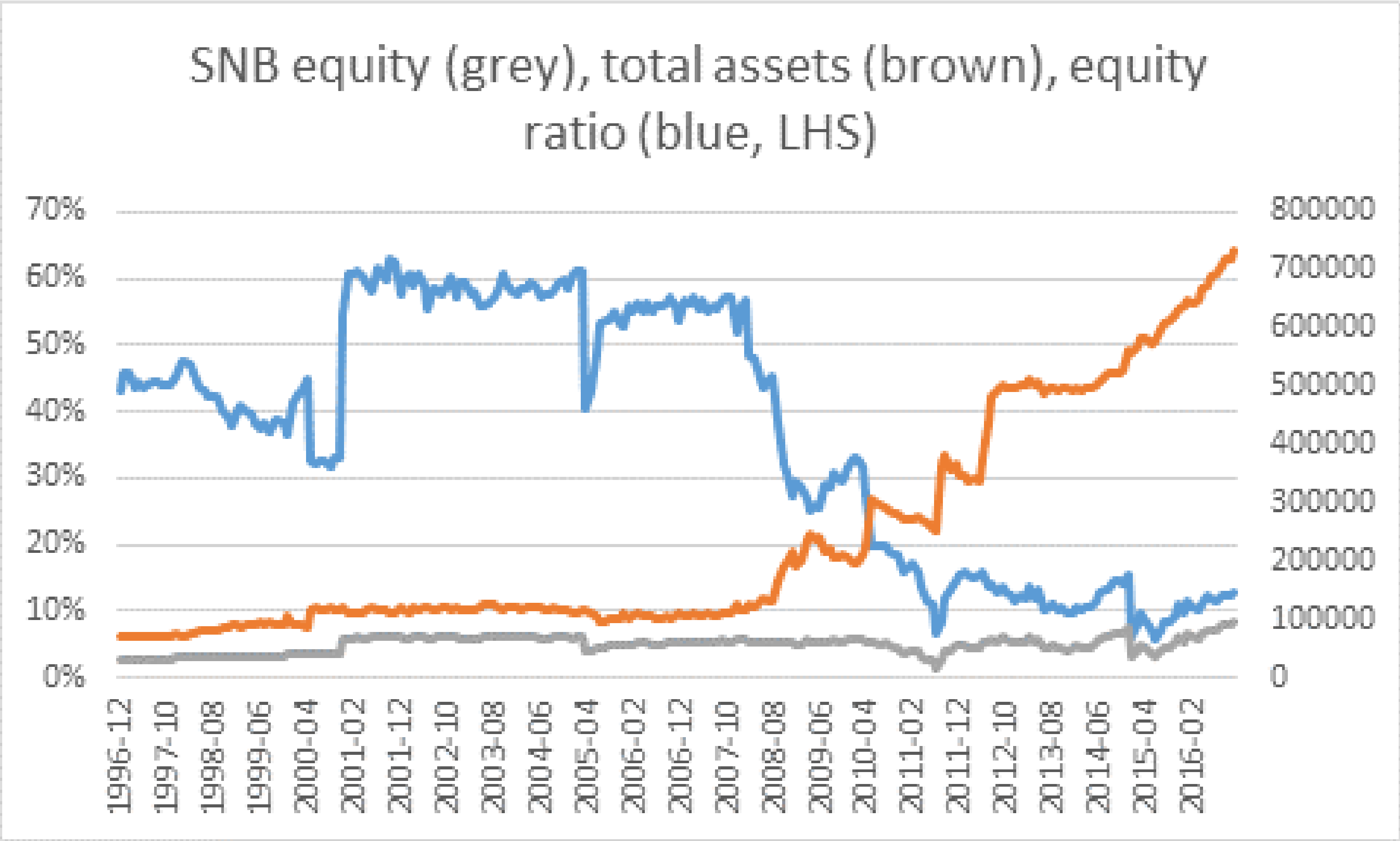
QE: profitable or costly, in general?

- Want an unconditional forecast. Akin to policy shock simulation.
- Goodfriend (2014): consider as a bond market carry trade
  - Make money on the front end, lose on the back end
  - Source of earnings is the term spread
  - Decision to enter trade is not based on mispricing of term spread, but on policy interests
  - So trade is entered when term spreads are already compressed, and in a size designed to compress them more
  - Exit when term spread flat or negative (away from ZLB, when inflation threatens)
  - In price terms: wait for price peak before entering, exit once prices have definitely fallen.
- Repeated QE episodes?

Financial exposures can be huge

- Typical central bank is nearly 100% FX exposed, with considerable interest rate risk. With respect to core mandate.
- Emergency liquidity injections are core business – in context of systemic liquidity crises. Credit risk inevitable, unavoidable.
- Swiss National Bank (SNB) example of QE in FX shows potential scale of financial exposures that can accompany core mandate interventions.

Swiss National Bank experience



Net earnings margins experiencing structural erosion

- Neutral (equilibrium) nominal interest rates may have fallen
- IOR more commonplace. Larger balance sheets mean greater proportion of bank reserves remunerated at market.
- Demand for currency notes generally growing more slowly than other parts of the balance sheet; falling in Sweden.
- Greater quantums of FX reserves now held:
  - Self insurance against macro shocks
  - Now also against financial shocks
  - Funded with sterilization liabilities at negative carry

Symmetric distribution rules as surefire fix?

- Brazil the only extant example
- Peru, Korea close

- ECB may appropriate ESCB's monetary income, if any, in a given year

- Equity targets with first call on future surpluses (if any): Chile, Czech Republic, ECB, Finland, Iceland, Singapore, Switzerland, US
- Central bank discretion on distribution, no equity target: India, Malaysia, Slovakia, South Africa, Turkey
- Limited priority claims on future surpluses: Peru (75%), ECB, Germany (20%) Netherlands 1/6th of earlier loss, Israel (100% to 0%), Philippines, Poland (5%)

Central banker allergy to relying on fiscal support

- ECB (and many others): Financial independence is required for operational independence

Political allergy to open cheque book

- Open cheque book required for fully symmetric distribution system
- Would be highly unusual for independent agencies to have unlimited appropriations-on-demand
- Legal mandates provide incomplete constraints on central bank decisions; accountability is weak
- UK example:
  - Fiscal cost or risk requires Chancellor decision, even for actions within the core mandate
  - Bank is thinly capitalised, probably for same reason
- Helicopter money example: fiscal risk is the key problem

Market reactions

- Central bankers fear market misperception of the true financial constraint
  - And may act on the basis of that fear.
- Soothing words from Chile, Czech Republic, Israel, Mexico